

Amendments to the Claims:

This listing of claims will replace all prior versions, and listings, of claims in the application:

Listing of Claims:

1. (Currently Amended) A test handler for transferring more than one semiconductor device to connect to a test head for testing the semiconductor ~~device~~devices and for classifying the semiconductor ~~device~~devices according to the test results, the test handler comprising:

a main body;

a stocker, disposed within the main body, including a user tray supplier for loading a plurality of user trays including ~~a predetermined amount of the semiconductor devices for the testing~~, and a user tray ~~deliver~~deliverer for loading the plurality of user trays carrying ~~the~~ classified semiconductor device according to the test results;

a plurality of test trays arranged according to a moving direction for testing the semiconductor ~~device~~devices;

a device loading ~~means~~mechanism for transferring the semiconductor ~~device~~devices in ~~the~~a user tray of the user tray supplier to ~~the~~a test tray;

a first tray inverter for changing a horizontal posture of ~~the~~a test tray carrying the semiconductor ~~device~~devices to a vertical direction;

a soak chamber for preparing a desired test temperature condition while receiving sequentially the test tray postured vertically by the first tray inverter and for transferring the test tray to predetermined steps, and for discharging the test trays arranged in two vertical rows;

a test chamber accomplishing ~~tests while connecting~~electrical testing of the semiconductor devices in the two test trays discharged from the soak chamber, and for maintaining the test temperature condition;

a de-soak chamber for restoring ~~the devices~~device temperature while arranging ~~the test trays discharged in two rows from the test chamber to a single row~~;

a second tray inverter for inverting ~~the~~ a test tray discharged in the vertical posture from the de-soak chamber to a horizontal posture; and

a device unloading means capable of transferring the semiconductor devices on the test tray postured horizontally by the second tray inverter to multiple empty user trays after classifying the semiconductor devices according to the test results.

2. (Original) The test handler according to claim 1, wherein the stocker comprises a multi loader for classifying and storing the plurality of user trays.

3. (Currently Amended) The test handler according to claim 2, wherein the multi loader comprises:

a motor;

a ball screw rotated by the motor; and

a plurality of loader blocks liftingcapable of being lifted up and down by the ball screw and loadingcapable of being loaded with the classified user trays.

4. (Currently Amended) The test handler according to claim 3, wherein the multi loader comprises:

a discharge cylinder for discharging ~~the~~ loader blocks to the outside of the test handler; and

a transfer guide for guiding the discharge of the loader blocks to an outside of the test handler by driving of the discharge cylinder.

5. (Currently Amended) The test handler according to claim 1, wherein the stocker performs the supply and the ~~deliver~~delivery of the user ~~tray~~trays during test operation, the stocker comprising:

an auxiliary supplier equipped in a bottom side of the user tray supplier ~~and~~for loading ~~the~~-user trays to the user tray supplier when the user tray supplier completes loading ~~the~~-user trays within the user tray supplier; and

an auxiliary ~~deliver~~deliverer equipped in the bottom side of the user tray ~~deliver~~deliverer and capable of transferring ~~the~~a user tray of the user tray ~~deliver~~deliverer when the user tray is loaded to the user tray ~~deliver~~deliverer.

6. (Currently Amended) The test handler according to claim 1, wherein the device loading means comprises:

several loading side set plates arranged in an upper side of the user tray supplier and including ~~the~~-user tray for loading the devices;

a transfer arm for transferring sequentially ~~the~~a user tray from the user tray supplier to the loading side set plate, and

a loading orthogonal robot moving sequentially and repeatedly between ~~the~~a loading side set plate and ~~the~~a loading side tray arranging station placing ~~the~~a test tray, and transferring ~~the~~a semiconductor ~~devices~~device on ~~the~~a user tray to ~~the~~a test tray.

7. (Original) The test handler according to claim 6, wherein the device loading means further comprises:

a site decision pin, inserted into a fixing hole equipped movably to the test tray, for fixing the insert to the test tray; and

a site decision unit including the site decision pin comprising a guide wall, inner-tapered to guide the device to the insert.

8. (Currently Amended) The test handler according to claim 6, wherein the transfer arm comprises a first sensor and a second sensor installed in an upper side of the transfer arm, and moves at a predetermined speed until the first sensor detects a position of ~~the~~a user tray, and moves slower than ~~the~~a predetermined speed for the second sensor to detect the user tray when the first sensor detects the position of the user tray.

9. (Original) The test handler according to claim 6, the loading orthogonal robot comprising:

a front row and a rear row equipping eight vacuum pads respectively to pick up sixteen devices in unit operation;

a hand adjusting an interval between each of the vacuum pads; and

a transfer means driving the hand.

10. (Currently Amended) The test handler according to claim 9, wherein the transfer means comprises:

a front and rear transfer mechanism for shifting the front row and the rear row in a forward or backward direction to adjust an interval between the front row and the rear row; and

a left and right transfer mechanism for lifting up and down the vacuum pads to adjust an interval of each of the vacuum pads respectively.

11. (Currently Amended) The test handler according to claim 10, wherein the left and right transfer mechanism comprises:

a cam plate including a long hole to fit with a horizontal distance such that each of the vacuum pads moves respectively; and

a cam follower in each of the vacuum pads inserted into the long hole of the cam plate to adjust an interval of the vacuum pads, ~~while~~when the cam plate lifts up and down.

12. (Currently Amended) The test handler according to claim 1, wherein the soak chamber comprises:

- a guide bar loading ~~the test tray~~trays of two vertical rows, top and bottom; and
- a pusher transferring ~~the test tray~~trays of two vertical rows loaded in the guide bar to a test position or a discharge position selectively.

13. (Original) The test handler according to claim 1, wherein the test head is placed at an outside of the main body.

14. (Currently Amended) The test handler according to claim 13, wherein the test chamber comprises:

- an air inlet receiving air from the outside of the test chamber;
- a plurality of discharge holes discharging the received air from the air inlet to a side of the test chamber; and
- a matching plate comprising multiple penetration holes, generated in the side of the test chamber including the discharge holes, for supplying the discharged air from the discharge holes to ~~the devices~~ of the test tray.

15. (Currently Amended) The test handler according to claim 1, wherein a linear guide is equipped in a bottom side of the de-soak chamber and a linear block is equipped in the main body so that the de-soak chamber can be extracted to an outside of the main body ~~by combining~~ with the linear guide.

16. (Currently Amended) The test handler according to claim 1, wherein the device unloading means comprises:

first and second ~~condense~~ robots transferring ~~the~~ devices on the test tray placed in an unloading side tray arranging station, after classifying the devices according to the test results;

at least three sorter tables for storing the devices transferred by the first and second ~~condense~~ robots, according to a unit amount and a decided class of the devices;

an unloading side orthogonal robot for transferring ~~the~~ devices stored in ~~the~~ sorter tables to a predetermined position, according to ~~the~~ unit amount and ~~the~~ decided class of the devices;

a plurality of unloading side set plates, arranged in an upper side of the user tray ~~deliver~~deliverer, including a plurality of empty user trays for receiving the devices transferred by the unloading side orthogonal robot; and

a transfer arm transferring the empty user trays to the user tray ~~deliver~~deliverer when the empty user trays placed in the unloading side set plate are filled with a predetermined amount of the devices.

17. (Original) The test handler according to claim 1, wherein the first tray and the second tray inverter comprise respectively:

an inverting plate including an insert hole in a middle part for the test tray to be admitted;

a lifting cylinder combined with an end of a side of the inverting plate;

a bracket, protruded from a bottom side of the inverting plate, including a long hole; and

a front/rear cylinder including a supporting axis combined with the end side of the bracket to push the inverting plate to a forward direction.

18. (Original) The test handler according to claim 17, wherein the inside of the insert hole comprises:

a locking pin locking the test tray inserted in the insert hole; and

a locking cylinder operating the locking pin.

19. (Currently Amended) The test handler according to claim 1, wherein the device unloading means comprises:

a sorting part for sorting ~~the~~ devices according to the test results; and
an unloading part for unloading the sorted devices from the sorting part.

Amendments to the Drawings:

The attached sheets of drawings include changes to Figures 1 to 3. These sheets, which include new Figures 1 to 3, replace the original sheets including original Figures 1 to 3. In Figures 1 to 3, a legend “Prior Art” has been added.

Attachment: Replacement Sheets